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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/609,137

06/26/2003

Soheil Shams

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7590

09/18/2007

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EXAMINER

BRUSCA, JOHN S

ART UNIT

PAPER NUMBER

1631

MAIL DATE

DELIVERY MODE

09/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/609,137	Applicant(s) SHAMS, SOHEIL	
	Examiner John S. Brusca	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-81 is/are pending in the application.
- 4a) Of the above claim(s) 5,6,24,25,43,44,60,68 and 76 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,7-23,26-42,45-59,61-67,69-75 and 77-81 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In the amendment filed 18 December 2006 the applicants have stated that the insertion of the limitation "the corresponding exon having a length such that the gene expression is associated with the entire length of the corresponding exon" means that gene expression is measured across the entire exon rather than measured at one portion of an exon in transcribed sequences. As noted by the applicants at page 23 of their remarks filed 18 December 2006:

The present invention is to be contrasted with the Caron reference, where the mapping is done at a more rough resolution. The Caron reference maps expression levels across the chromosome at the gene level, not the exon level. At its finest resolution, the Caron reference maps "expression levels ... for...individual tags of a gene." (See the Caron reference, page 1290, column 3, lines 32-25). As illustrated by Figure 2 of the Caron reference, the mapping is to a marker comprising a 10 base pair region, not an exon.

In other word, at its finest resolution, the Caron reference maps expression levels to a 10 base pair region. Although the marker may overlap an exon, the mapping is not associated with the entire length of the corresponding exon. Thus, the Caron reference does not teach or enable each limitation as set forth in Claims 1 and 58. Specifically, the Caron reference does not teach or enable "...associating the gene expression within the first gene expression pattern with its corresponding exon, the corresponding exon having a length such that the gene expression is associated with the entire length of the corresponding exon" as is required by Claims 1 and 58.

In the amendment filed 29 June 2007 the applicant has deleted the claim limitation "gene expression associated with the entire length of the corresponding exon" and substituted the limitation "associating the gene expression to the first-spatial expression pattern for the length between the start and stop position of the exon."

Consistent with prior prosecution of this application, the claimed subject matter as amended is interpreted to require a measurement across an entire exon for level of transcription of the exon in transcribed sequences, not merely a portion of an exon as shown in Caron et al.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-4, 7-23, 26-42, 45-59, 61-67, 69-75, and 77-81 are rejected under 35

U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

All claims are drawn to methods comprising associating gene expression levels with chromosomal regions in which gene expression is associated with the entire length of a corresponding exon, and apparatus for executing the methods.

The specification describes measurement of gene expression within exons, for example see pages 4-7.

The specification does not describe measurement of gene expression associated with the entire length of an exon.

Response to Arguments

4. Applicant's arguments filed 29 June 2007 have been fully considered but they are not persuasive. The applicant points to paragraph 74 for support of the limitation of determining expression levels across the entire length of an exon, however paragraph 74 does not contain the quotation cited in the argument. The quotation noted by the applicant appears in paragraph 65. Paragraph 65 does not discuss measurement of a signal across the entire length of an exon.

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Paragraph 65 describes measuring expression of a gene that is consistent with measurement of a portion of an exon, as shown in the prior art of Caron et al. because paragraph 65 merely discusses measurement of each exon without requiring measurement throughout the length of the exon.

Conclusion

5. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Brusca whose telephone number is 571 272-0714. The examiner can normally be reached on M-F 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie A. Moran can be reached on 571-272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John S. Brusca/
Primary Examiner
Art Unit 1631

jsb